

ON MORBID DROWSINESS AND SOMNOLENCE.

A CONTRIBUTION TO THE PATHOLOGY OF SLEEP.

BY C. L. DANA, M.D., NEW YORK.

PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE POST-GRADUATE MEDICAL SCHOOL,

I WISH to call attention to certain forms of abnormal drowsiness and somnolence, which I believe many physicians have had some experience with, but concerning which little has, of late years, at least, been systematically written. I do not mean the somnolence of indolence, obesity, bad air, or organic disease, but I refer to certain peculiar forms of morbid sleepiness which are dependent upon some constitutional, and generally neurotic, taint.

The first writer upon this subject was a physician of the first century, Aretæus, who left two books upon "The Lethargics." Galen, his contemporary, also made many references to abnormal somnolence and lethargy. On the other hand, as Mr. More Madden well says, at the present day we find that in the five large volumes on nervous diseases in Ziemssen's Cyclopædia there is barely a reference to this subject. Perhaps we are more wide-awake than we were seventeen centuries ago.

I have been able to find reports of only about fifty cases of morbidly prolonged somnolence. Nearly all of those reported previous to 1878, are cases of what have been termed trance-sleep, or lethargy. Since the above date, when Gelineau called attention to a disease which he called nar-

colepsy, other and more peculiar forms of somnolence have been placed on record.

In my own experience, I have seen five cases which come under the head of morbid somnolence, and to these I can add two cases, the notes of which were kindly furnished me by Dr. L. Putzel, of this city.

A study of these cases which I have collected shows some curious perversions of sleep.

A married woman in good health, active, but somewhat advanced in years, was subject to continual attacks of drowsiness and sleep, so that she had to have an attendant with her whenever she went out to call or to walk. This condition lasted for years.

A girl, says Lesegue, while sitting in church, felt an irresistible desire to go to sleep. Such sensations have been felt by others, but not manifested in this same way. She went home and decently retired to bed, where she fell asleep, and did not wake up for three days. She subsequently often had similar attacks. It was certainly a unique illustration of the persistent hypnotic effect of Biblical exegesis. A married man of forty, while out in a field hunting, in the midst of the excited expectation of the prospective game, sat down and slept for three hours. He could only be aroused by the de-mesmerizing process of his wife, who, it was subsequently found, could send him to sleep and wake him up at her own sweet conjugal will. He lived for many years under this morphic sway of his too-soothing consort.

A young officer in the British army, says Madden, slept so long every day, that he was forced to resign his commission. This was not due to laziness, but was explained in politer terms as an idiosyncrasy.

A patient of my own, a healthy young salesman, was subject to periodical attacks of somnolence. He would go to

bed at the usual hour feeling well, and could not be roused until 12 M. or 6 o'clock P. M. the next day. These attacks would last for a week or ten days. During them his mind appeared to be disturbed.

A prominent clergyman in New York City used to be constantly overcome with sleep while writing his sermons, or engaged in any other mental work.

Gelineau tells of a man who was subject to frequent and annoying attacks of drowsiness or sleep. Whenever he was in a most expectant or interested condition, when about to dine, when going to the theatre, when walking in the street, he would fall sleep, and had to be pinched and drubbed till he awoke again.

A patient of mine, an active business man, while suffering from a train of neurasthenic symptoms, became the victim of an unconquerable and persistent drowsiness, which obliged him finally to leave his work.

These are some of the illustrations of the perversities of sleep. The cases which I have collected include those of trance lethargy—the sleeping men and girls, as they are called. They include also some of the cases of hysterical and mesmeric sleep. Moreau, Briquet, Bourneville, and Richer have reported altogether a good many cases of this latter kind, which I have not tried to quote. And they show that this form of morbid somnolence, though more common than other forms, is still comparatively rare. Briquet, among over 400 cases of hysteria, met three cases of prolonged somnolence and eight of lethargy. He makes a distinction between these terms, as do others, and very properly. In lethargy the condition of unconsciousness is generally more profound, the reflexes are abolished, and the patient cannot be roused. As a case reported by Gairdner shows, a patient may even have periods of sleep within the lethargy. Nevertheless, the two states are very

closely allied clinically and pathologically. And in some instances the patient is part of the time simply in deep sleep, at other times in complete lethargy. I have thought best, therefore, to consider the two states together under the common title of prolonged or morbid somnolence.

I have already said that the various forms of morbid drowsiness and somnolence to which I call your attention, do not include the common and simple cases, such as occur in every-day practice. Many persons are too drowsy after meals, and perhaps too sleepy on cold mornings or after midnight indiscretions, to be in a perfectly healthy state. There are many forms of drowsiness due to old age, to organic disease, to obesity, to diabetes, and to cerebral vascular disease.

I enumerate these causes here, and exclude them as the chief pathological factors in my cases. These latter I consider to be in the main expressions of some neuropathic state; to be, in fine, neuroses.

The causes of ordinary forms of drowsiness and somnolence are:

1. Old age, when there is a weakened heart or diseased arteries, with cerebral mal-nutrition.
2. The diseased vascular conditions which precede cerebral hemorrhage.
3. The cerebral mal-nutrition or inflammations occurring before or during certain forms of insanity.
4. Various toxæmiæ, *e. g.*, malarial, uræmic, cholæmic, syphilitic.
5. Dyspepsia.
6. Diabetes.
7. Obesity.
8. Insolation.
9. Cerebral anæmia and hyperæmia.
10. Cerebral tumors and cranial injuries.

11. Exhausting diseases.

12. The sleeping sickness of Africa.

Of course, I cannot deny that in some cases of the hypnotic neurosis certain of the above factors enter. But I look upon them as secondary.

In studying *the symptoms* in the various cases which I have collected, I find that the somnolence shows itself in very different ways :

I. Sometimes the patient suffers from simply a great prolongation of natural sleep. He sleeps fourteen or eighteen hours out of the twenty-four. When awake he is not drowsy. His attacks may daily succeed each other (periodical prolonged somnolence). This may be continued for some time.

II. Sometimes the patient suffers from a constant persistent drowsiness, which he is often obliged to yield to. (Persistent drowsy and somnolent condition, with some remissions.)

III. Again, the patient may be subject to frequent brief or comparatively brief attacks of somnolence, not being drowsy in the intermissions.

IV. In some cases there are single or repeated prolonged lethargic attacks. These are the cases which often become notorious, as sleeping or fasting girls. But it also includes others of a less marked type.

V. Finally, some patients—and they include the largest number—suffer from periodical attacks of profound somnolence or lethargy, which last for days, weeks, or months. If they continue for months they are generally interrupted by very brief and incomplete remissions.

In these different conditions, the accompanying symptoms necessarily vary much. As a rule, the health of the patient finally suffers. Morbid somnolence may be much more serious than insomnia. Sometimes the consciousness

during the attacks is not entirely abolished. In the epileptoid and hysteroid sleep, and in the lethargic states, the pupils are generally dilated instead of contracted, as in normal sleep. In deep lethargy the reflexes are abolished.

The diseased condition is generally a chronic one, lasting for years. It may end in insanity, suicide, or in death from mal-nutrition or starvation. In certain forms of somnolence, however,—especially those of a hysterical nature,—the patient's health does seem to suffer.

I do not find that a clinical classification is alone a sufficiently useful one. Morbid somnolence is, of course, a symptom, and, in the cases which I am considering, a symptom of some neuropathic condition. I have tried, therefore, to classify the cases in accordance with the pathological state which we may assume to be at the bottom of the trouble.

One very soon sees that most cases of functional morbid somnolence are closely related to the epileptic or hysterical diathesis.

We have, therefore :

I. The epileptoid sleeping states, some of which seem to correspond to *petit mal*,—some to *haut mal*.

II. We have also the hysteroid sleeping states. These include the lethargics and the sleeping-girls, but also individuals who are subject to short attacks of sleep and even persistent drowsiness. They should include, also, the victims of spontaneous or provoked mesmeric sleep.

III. Finally, there is a class of cases of a puzzling nature. We find no history or evidence of epilepsy or hysteria in them; and though we may call them epileptoid or hysteroid, it is certainly but a make-shift to do so. The patients seem to be the victims of a special morbid hypnosis. Possibly they have a cerebral hyperæmia or anæuria. Some of them simply feel a morbid necessity for sleep, and

do sleep twelve hours or more out of the twenty-four. Or they are oppressed by a continual drowsiness or by frequent attacks of somnolence, or even by attacks of long and profound lethargy.

The predisposing causes in these forms of somnolence are chiefly a neuropathic constitution, which is in some cases acquired, in some cases inherited,—sometimes the disease itself seems to be directly inherited. The epileptic and hysterical diatheses, are found with especial frequency. As regards sex, it is only in those cases where the morbid sleep is apparently a pure hypnagogic that the males are more susceptible. In the other forms the ratio of females to males is about as four to one, which is considerably less than the ratio in hysteria. The age at which the trouble appears varies between eleven and forty-seven. Most cases occur between the ages of twenty and forty. The hysteroid cases are materially younger.

This may be shown by the accompanying table:

	Total No.	Age.	Sex.
Epileptoid. Sleeping States.	11	15-30=6. 30-40=65.	Male 4. Female 7.
Hysteroid. Sleeping States.	26	16-32.	Male 5. Female 21.
Other Forms.	12	12-40.	Male 9. Female 3.
Total.	49		Male 18. Female 31.

The exciting causes are difficult to determine. Violent emotions, fright, injury, great exhaustion, over-work, excesses, appear to bring on the attacks in many instances. Habits of indolence may finally end in producing a degree of drowsiness, which is certainly morbid.

Treatment.—“Lethargics,” says Aretæus, “are to be laid in the light and exposed to the rays of the sun (for the disease is gloom); and in a rather warm place, for the cause is congelation of the innate heat.”

Noises to arouse the patient, cupping, blisters, and rubefacients, sternutatories of castor, emetics, and purges are recommended, by that author and by Galen.

Modern therapeutics has not advanced greatly beyond Aretæus in the treatment of lethargics. In the other and slighter forms of the disease, however, we can do much more. We can, for example, remove cerebral anæmia, or hyperæmia, improve the general nutrition, reduce obesity, correct the diabetic troubles, and greatly relieve the epileptic or hysterical taint.

We can and should exclude such factors as malaria, uræmia, cholæmia, dyspepsia, or syphilis. If there is anæmia, we should use iron, arsenic, nitrite of amyl, glonoin, digitalis, hydrotherapy, electricity, and general hygienic measures and tonics. Change of occupation or travel and a course of mineral waters at some resort have proved successful.

As symptomatic remedies we can recommend coffee, caffein, coca, belladonna, nitrite of amyl, and sternutatories. Laycock's sternutatory, composed of powdered cinchona and white hellebore, is an excellent one. The ancient authorities, like Galen and Aretæus, recommend castor.

In hysterical cases, tartar emetic has been very successfully used.

Systematic and persistent attempts should be made to break up the special somnolent attacks. Some cases need to be fed with the stomach-tube.

Having reviewed the general features of the morbidly somnolent states, I now present the history of a few cases which came under my own experience. Two of them I have briefly alluded to. None of them, I believe, come under the head of epileptoid sleeping-states. Two occurred in persons who presented the symptom-complex known as neurasthenia. One was a case in which the som-

nolent attacks alternated with attacks of cataleptic *petit mal*, while the fourth is a case which I can only classify as being a separate morbid neurosis.

The history of this last case, which was the most interesting as well as perplexing to me, is as follows:

CASE 1.—The patient is a young man, twenty-eight years old, unmarried. There is a history of phthisis in the family but no nervous trouble of any kind, except that a younger brother had when about ten years of age several general convulsive attacks, probably epileptic, which later disappeared entirely. The patient himself when a boy had eczema, and when about twenty years old suffered from a loose cartilage in the knee-joint and dropsy of the same articulation. From this he entirely recovered in a year or two. Aside from these things he has always been well.

He had always been a late sleeper but when awake was bright, active, intelligent, and of excellent business capacity. There was not the slightest evidence of hysteria about him, though he has some unobtrusive mental peculiarities. About eight years ago his family began to have serious trouble in getting him up in time for his work in the store where he was a salesman. He would be easily roused mornings but would go to sleep again and would not get out of bed, despite all arguments and urging, until ten, eleven, or twelve o'clock in the morning.

The trouble seemed to grow upon him until finally he would stay in bed all day, getting up at about five or six o'clock in the evening.

The severer attacks of somnolence came on periodically. He would get up at a tolerably good hour for two or three weeks. He would then, after going to bed at the usual hour, about eleven or twelve o'clock, stay in bed till noon or evening of the next day. He would repeat this for several days and would then get up at the ordinary hour. The frequency and severity of the attacks have of late been increasing. When awake and up he seemed as bright as ever and apparently felt well. He states that he goes to bed feeling as usual and expecting to get up to his work. The next morning, however, he is unable to do so. I saw him several mornings when in this lethargic state. He could easily be roused to a certain extent, and could be made to sit up in bed, but his mind seemed to be in an abnormal state. If urged to get up he would only say: "Yes, yes, I'll get right up." If pulled out of bed

and made to begin dressing himself he would perhaps do it slowly and mechanically. If urged harshly he would whimper like a child, and when possible he would get out of the room and lie down elsewhere. If closely followed up and watched until dressed and gotten down-stairs he would finally get into a normal state of mind. When examined by me some months ago he seemed in perfect physical health, except for a slight dyspepsia. He had no headaches or vertigo. His heart, lungs, and kidneys were normal. His pupils are even and not large. He did not have sugar in the urine, nor is he at all fleshy or obese, rather the contrary. He drinks and smokes very moderately. Has emissions only about once a fortnight.

The attacks naturally suggested the possibility of nocturnal epilepsy, drinking, or masturbation. The most careful inquiries and investigations enable me to exclude these.

I am forced to believe that his condition is an idiosyncrasy which habit has developed into a morbid neurosis.

CASE 2.—The patient in this case was a gentleman who came under my observation eight years after his attacks of somnolence. He was a business man, of a healthy family history, who had himself been tolerably well up to about ten years before. At that time he had a train of nervous symptoms which would be called neurasthenic. While still suffering from them he became the victim of an intolerable and persistent drowsiness. It interfered with his business, and he finally went away for a few months. Rest and life in the country restored him.

He came to me about nine years later with neurasthenic symptoms, which interfered greatly with his comfort and capacity to work. He was a spare man, quiet in manner, yet evidently of a nervous temperament. He stated that at the time when he suffered from somnolence, he had no hepatic or renal or any organic trouble so far as he knew. Somnolence was not one of his symptoms when I saw him.

Whether this attack was due to cerebral anæmia, or hyperæmia, or to any disturbances of the abdominal viscera, or whether it was simply a symptom of his nervous asthenia, I cannot say. When I was treating him he used to pass very large quantities of limpid urine, after exacerbations of his symptoms, but it contained no sugar.

CASE 3.—This patient also came under my treatment a few months after the severer symptoms of her somnolence appeared.

She was a married woman, aged forty-five, who had always been healthy, and was the mother of several healthy children. Of late she had had much domestic trouble and worry. About six months before I saw her she had suffered a great deal from "nervousness," weakness, and various vaso-motor disturbances, the most prominent being profuse sweating. She at this time began to be very drowsy at times. She would go to bed early and sleep till late in the morning. She would also sleep several times during the day, and at any time could sit down and fall instantly asleep.

When I saw her in January, 1883, she still slept more than the ordinary length of time, but did not suffer so much from drowsiness in the daytime.

She was a well-nourished woman, not especially anaemic. She complained of extreme nervousness and weakness and a constant sweating, also of some digestive troubles.

She had no discoverable organic disease ; the urine was normal and the bowels regular. She had more markedly the symptoms of general nervous asthenia than of hysteria ; that is to say, she had no globus, no spasmoid troubles, no great emotional disturbances. I could find no toxæmia or organic trouble which would account for her somnolence, although in this case the hypothesis of a cerebral anaemia might be brought in.

CASE 4.—F. S., age fifteen, came to me in January, 1882, suffering from paralysis of the left arm. She was a fleshy, robust-looking girl with ruddy complexion. Her parents were healthy, and she herself had always been well until a few months previously. She then began to have attacks of unconsciousness, lasting from a few minutes to half an hour. These were preceded by clonic spasms of the left hand ; when she came out of her attacks this hand was tightly clenched. The arm grew gradually weaker, and when she came to me it was nearly helpless, although she could move her fingers; the attacks referred to had ceased. Examination of the affected arm showed slight anaesthesia and vaso-motor disturbance. The electrical reactions were normal. Under treatment the paralysis gradually disappeared. During the time of treatment, and for some months subsequently, she complained of persistent drowsiness. She slept twelve hours at night, and in the daytime took frequent naps ; she could lie down and sleep at any time. There was no uræmia or other toxæmia, and the bowels were regular. The somnolent tendency left her very nearly with the paralysis.

In conclusion I present a case illustrating a condition of "cataleptic petit mal," as Richer calls it, and mesmeric somnolence. The girl was one whom I could undoubtedly have mesmerized if I had thought it wise. The case illustrates the close relation between hysterical attacks of sleep and of catalepsy.

CASE 5.—Miss Fanny H., age seventeen. Family healthy. When a child had severe attacks of syncope, or "fainting spells," as she called them. Otherwise, was healthy though somewhat delicate. Is well-developed; menses regular, but has suffered from dysmenorrhœa, for which she was successfully treated.

In March, 1883, while with her companions at recess, she suddenly felt her left hand being spasmodically twitched; she then appeared to lose consciousness, sat down, closed her eyes as though in sleep. In about ten minutes she roused spontaneously, and declared that she had been conscious of every thing, but was helpless. For some hours after this she felt weak and tired. A few days later a similar attack occurred.

The attacks then began to recur very often; sometimes she would have them once or twice daily, sometimes only once or twice a week. They occurred generally when she was at school and while engaged in study. Her left hand would begin to shake, constituting a kind of motor aura. If the hand were seized and held by her companion, she could often keep the attack off. If the attack came on the face would get paler; the eyes generally, she says, remained open.

As a rule, she continued sitting upright in her seat. Sometimes, however, her head went forward upon the desk, and her teacher would think she had fallen asleep.

She came under my treatment in April, 1883. She was then a somewhat delicate-looking girl, intelligent, studious, and not markedly nervous or hysterical in manner. She was found to be perfectly healthy as regards the thoracic, abdominal, and pelvic viscera.

While visiting me she had one of her attacks. The left hand shook, the eyes then closed, the body relaxed, and she seemed to be in a kind of stupor or sleep. She could not be aroused by any ordinary stimuli, although the reflexes were not abolished. In about fifteen minutes she returned to a normal condition, and then asserted that she had been conscious of every thing. I

treated her with tonics, bromides, electricity, spinal douche, etc. She improved somewhat, and, being finally through her school work, the attacks stopped.

The next fall she started to begin study again, when she had another attack, and then gave up study. Since then she has been perfectly well.

This patient had attacks, some of which appeared to observers to be attacks of sleep ; in other cases they were more of a cataleptic nature. The initiatory movement of the hand suggests a *petit mal*, or aborted epilepsy, but the preservation of consciousness and other points in the history, such as her prompt recovery, are against this.

The attacks were evidently of a hysterical nature, sometimes resembling those of morbid somnolence ; oftener those of catalepsy.

The case resembles in some points that reported by Gelineau as a case of "narcolepsy," and furnishes a kind of connecting link between some of the narcolepsies and catalepsies.

In addition to the cases thus related, I present two, of which the notes were kindly furnished me by Dr. L. Putzel, of New York City.

CASE 1.—The patient was about twenty years old, and had been subjected for a couple of years to attacks of falling asleep for a few minutes in any position, often while standing, and when not tired. There did not appear to be any thing pathological about them except their occurrence when the patient was not tired. She married at about the age of twenty-two or twenty-three years, and then began to suffer from infrequent, well-marked epileptic attacks. Her brother subsequently came to me, also suffering from epilepsy. The patient herself appeared to be entirely healthy in all other respects.

This case clearly illustrates the epileptoid sleeping-state, and is similar to those reported by Westphal, Fischer, Porter, and others.

CASE 2.—The second case was that of a patient married, about thirty years old, who suffered from all the evidences of general anaemia. In addition, she was always excessively drowsy, and at times would fall asleep standing up. Dr. Putzel regarded this as evidence of cerebral anaemia, and the patient recovered under the use of iron and nitrite of amyl.

To my own and Dr. Putzel's cases, I add a brief resumè of the others which I have found. Some exception may be taken to the classification which I have made of them, yet I believe that in the main it is correct.

I first present those which illustrate the epileptoid sleeping-states.

I.—*The Epileptoid Sleeping-States.*

CASE 1.—A young woman, aged twenty-six, had had epileptic attacks three years before. These had ceased and her health appeared good. She was seized with attacks of somnolence with dilated pupils; normal temperature; quiet breathing. She could not be awakened, but awoke spontaneously after 12, 16, 18, or 24 hours. Once she slept for twelve days. Lately she had slept two thirds of each day. (Rahlman: *Berlin. Klinisch. Wochensch., Brit. Med. Four.*, April 2, 1881, p. 527.)

CASE 2.—A young woman, aged twenty-two. Sister had the same trouble for a time but it disappeared spontaneously. Well until six years ago, when her voice became weak and hoarse. After this, there supervened attacks of somnolence—two to six daily, lasting five to sixty minutes. They would attack her at any time. They were most frequent at her menstrual period. Consciousness was sometimes partially, sometimes entirely, lost. When the attacks first began she had some slight preliminary muscular twitchings; later, she had peculiar feelings like an aura. General health good. Case attributed to fright. (Reported by F. Fischer, Jr.: *Arch. f. Psychiatrie*, Bd. viii., p. 200.)

CASE 3.—Sister of case 2. See above.

[Fischer considers this case epileptoid, but it might well be of a hysteroid or cataleptoid nature.]

CASE 4.—The patient was a man aged thirty-seven, who had had syphilis. He had an attack of mania; was taken to hospital. Recovered, but showed much mental weakness. He was then attacked with somnolent seizures. He would suddenly fall into a sleep lasting ten to thirty minutes. This occurred every day, or only once a week. He was apparently in ordinary sleep, but was anæsthetic; reflexes lost. The attacks were accompanied by vaso-motor disturbances, especially those showing irritation of right cervical sympathetic. The attacks ended in sweating. (E. Mendel: *Deut. med. Wochensch.*, 1880, p. 226.)

[The syphilis might have been at the bottom of this.]

CASE 5.—The patient was a man, a book-binder, aged forty. (Westphal : *Arch. f. Psych.*, Bd. vii., p. 656) Mother has attacks similar to the son's. After a powerful excitement, he had an attack in which he lost speech, with great trembling and weakness. After this he suffered from two classes of attacks. In one he would suddenly reel like a drunken man, then fall, his jaw twitching, eyes half open, respiration hastened. At the end he would have a movement from the bowels. He said he was conscious all the time.

In the other attacks he would suddenly be seized with drowsiness, alone or in company, or when on the street. He would sleep until wakened accidentally or otherwise.

CASE 6.—Mother had similar attacks as son. (See above case 5. Westphal.)

CASE 7.—A woman aged forty. Mother and sister epileptic. Had suffered many years from attacks of neuralgia. Finally she had a very severe attack of neuralgia with insomnia. After this passed away, she suffered from attacks of somnolence alternating with vertigo. On one day she would suffer from the somnolence, on the other from vertigo. These attacks of somnolence occurred six or seven times daily, but lasted only two to five minutes. After several days of alternating somnolence and vertigo, she would remain free from any symptoms for a week or more. (R. H. Porter, *Medical Record*, Nov. 27, 1880, p. 610.)

CASE 8.—A girl aged eighteen, of neurotic family, well-nourished, inclined to corpulence. No symptoms of hysteria and no convulsions. Subject to severe headaches for several years. About a year ago became subject to attacks of somnolence, at first rare, later every few days. She would have a headache, and then pass into a sleep lasting several hours. At other times, while suffering from headache, she would have several short attacks of sleep lasting a few minutes.

At other times, instead of going to sleep, she would pass into a kind of somnambulant state (epileptic cerebral automatism), and would do her routine work unconsciously and automatically. Her cousin was a sleep-walker. (R. H. Porter, *vide loc. cit.*)

CASE 9.—The patient was a man aged thirty-eight. Family and early personal history good. No syphilis. Married, and had two children. Moderate drinker. Had had acute articular rheu-

matism. Three years ago had a fit and a fall. Two years ago his symptoms began. He would fall asleep whenever he undertook to eat, walk, go to theatre. Any thing particularly exciting his attention would throw him into a sleep. He would sleep a little, then wake. He had one or two attacks daily, accompanied by dizziness. He often had attacks of dizziness. Intelligence, memory, and consciousness were not lost during the attacks. (Gelineau: *Gazette des hôp.*, July 8, 1880.)

[This was the case originally published by Gelineau as one of narcolepsy. He does not consider it as epileptoid, but as a distinct neurosis. I place it here as being clinically most like other epileptoid cases.]

CASE 10.—A woman aged thirty-five, healthy in other respects, had short attacks of somnolence daily. They lasted about ten minutes. (G. Ballet: *Revue de médecine*, Nov., 1882.)

[This case, too, which I do not report in full, cannot be certainly considered as epileptic.]

CASE 11.—Putzel's. (See *ante.*)

II.—Cases Illustrating the Morbid Somnolent Neurosis.

CASE 1.—My own. (See *ante.* Case 1.)

CASE 2.—A young officer could not possibly get along without fourteen hours of sleep. He slept until noon every day and lost his commission in consequence. (Quoted by T. More Madden: *Dublin Journal of Medical Sciences*.)

CASE 3.—The patient was a woman aged fifty-two. Her grandfather was *très dormeur*, otherwise her family and personal history were good. For several years she has had an unconquerable tendency to sleep. At night she sleeps like others; in the daytime she has from three to six attacks of somnolence. These are more frequent at the menstrual epoch. (G. Ballet: *Revue de médecine*, Nov., 1882, p. 945.)

[This case is clinically somewhat like some of the epileptoid cases, yet there is no evidence furnished that there is any epileptic taint.]

CASE 4.—A wine merchant, aged twenty-eight. Family history good. Always had a tendency to sleep in the daytime. When

three years old had typhoid fever, which was followed by seventeen days of lethargy. Suffered from headaches. In the last two or three years the attacks of somnolence and drowsiness have been increased. Has difficulty in keeping awake during work, or even while waltzing. Sleeps very heavily and long at night, and is hard to waken. No albumen or sugar in the urine. Improved somewhat under hydrotherapy. (G. Ballet *vide loe. cit.*)

CASE 5.—The patient was a man aged forty-seven, married. Family and personal history good; a clerk; sober. For a year he was subject to attacks of somnolence, and had to give up his employment. He was large and corpulent. He was of fair intelligence but slow.

Under treatment he improved, then relapsed. Later he seems to have become insane, or to have had a chronic meningitis. (Caffe: *Fourn. des connaissances médical pratique*, Aug. 20, 1862.)

[Caffe considered this at the time a case of passive cerebral congestion with serous effusion. Gelineau thinks it was a distinct neurosis. The termination of the case, though occurring years later, rather points to some organic trouble.]

CASE 6.—J. M., a man aged thirty-nine, good constitution and family and personal history; plethoric; a farmer. Twelve years before was exposed to rain and wet, with the result of getting severe pains (rheumatic?). Under treatment these all disappeared except at base of skull and back of neck. After the general pains or neuralgiae had disappeared, he observed that, especially after eating, an irresistible tendency to sleep set in, accompanied by heaviness of the head and general dulness of disposition. During the second year of his illness the attacks of somnolence occurred frequently—twenty or more times a day—always preceded, however, by an aggravation of pain at the base of the cranium and cervical region. A peculiarity about these neuralgic pains was that they lasted for a very short time, and left him with the sleepiness only, which deprived him of a great deal of valuable time. Toward convalescence these neuralgic and sleepy attacks diminished in frequency, being limited to five or six spells a day. (E. Paz: *Cronica Medico-Quirurg.*, Havana, 1876, p. 328. Quoted by Dr. Matas.)

[The case might have been syphilitic.]

CASE 7.—Jose, a young Mexican herdsman living near Matamoras, Mexico. He had been a bright, active, healthy fellow. After a long ride on a hot, sunny road, one and a half months previous, he began to show a disposition to somnolence. He slept late in the morning, again in the afternoon. Finally he slept twenty-four to forty-eight hours, with brief periods of wakefulness. Had no headache or fever; pulse and respiration and skin appeared normal in the attacks. No evidence of renal disease. He could be aroused, but would fall asleep again. Sleep seemed natural and calm. (Dr. Rudolph Matas: *New Orleans Med. and Surg. Jour.*, Jan., 1884.)

[While this was probably a neurosis, we cannot positively exclude diabetes, uræmia, or the effects of insolation.]

CASE 8.—A boy aged twelve, much overgrown; weight, one hundred and fifty pounds; height, five feet six inches. An aunt is epileptic, and his mother a sufferer from neuralgia.

Nine months before he was seen by Dr. Porter he began to suffer from attacks of somnolence. They began at 9 A.M., and continued forty-eight hours. He could be roused, but would fall asleep again. Would take no nourishment. After they had passed off he felt tolerably well. They came on monthly at first, then became more frequent. He showed symptoms of neurasthenia. For these he was treated, and gradually recovered. (Robert H. Porter, M.D.: *Med. Record*, Nov. 27, 1880, p. 610.)

[Dr. Porter considers this a case of epileptoid somnolence; but this is hardly satisfactory, not being clinically like most of such cases. It was more likely a nutrition disturbance.]

CASE 9.—Farmer, age forty-three; for nineteen years was subject to attacks of somnolence, coming on without appreciable cause. He was a healthy man otherwise, and intelligent. No hysteria. His attacks last two to five days, averaging two days. The disorder came on in 1842, lasted a year; again in 1848, lasted one and a half years; again in 1860. During sleep he is pale, feet and hands cold, pulse slow and feeble. Awakes refreshed. In 1878 had trismus after the attacks. Since last attack has become weaker. Dr. Cousins reported in 1865 that his patient was still suffering from the abnormal attacks, and was weaker and less interested in business, otherwise well. (Dr. J. W. Cousins: *Med. Times and Gazette*, April 18, 1863, and July 27, 1865.)

[This case resembles those of hysterical trance lethargy, but there is no reason for calling it "hysterical" except the symptom morbid somnolence.]

Hysteroid Morbid Somnolence.

The cases of morbid somnolence and lethargy occurring in hysterical persons and in hystero-epileptics are, comparatively speaking, quite numerous. This is especially the case if we include under this head the various instances of trance lethargy which have been related. Yet for all this, morbid somnolence is not absolutely a frequent phenomenon, as has been already stated.

In looking over the history of the cases of prolonged sleep in persons of a hysterical diathesis, we find that the disease shows itself in several markedly different ways.

Thus there is a set of cases of trance lethargy so-called, in which the patients are plunged into a deep and prolonged unconsciousness, lasting from one day to several years. These are "sleeping girls," and fasting girls.

Another class includes those who apparently are the victims of a too ready susceptibility to hypnotism or mesmerism.

A third class includes the patients who suffer from somnolence or drowsiness in other irregular forms. These patients are evidently hysterical, but their somnolent symptoms appear in peculiar ways.

I have collected and give below brief references to the cases of trance sleep or remissive lethargy which have appeared in medical literature in the past years.

I do not include those cases which are cataleptic in their nature, although there is undoubtedly a close relation between the cataleptic and ordinary forms of lethargy.

CASE 1.—A woman, aged twenty-four, large, well formed. At the age of eighteen; she fell into a trance sleep lasting forty days; at age of twenty another attack lasting fifty days. All the

latter time she was insensible, could not be roused, and had to be fed. When twenty-eight years old she fell into another lethargy, which lasted several months. The respiration was very shallow, pulse slow, organic life at a low ebb. (M. Blondet : *Gaz. hebdomadaire*, October 28, 1864, p. 726.)

CASE 2.—Young lady, aged nineteen, apparently well ; suddenly attacked with lethargic sleep, resembling syncope ; was occasionally aroused for a time. After nine days suddenly awoke. (T. More Madden : *Dublin Medical Journal*, vol. 71, 1881, p. 297.)

CASE 3.—A young woman, aged eighteen, slept forty days, could not be roused, was fed. At age of twenty, slept fifty days. At age of twenty-four, slept twelve months, being fed. Pulse slow and weak. Respiration almost inappreciable. (Blondet : *Med. Times and Gaz.*, Nov. 12, 1884, p. 519.)

CASE 4.—R., a soldier, age twenty-five. Two years before, in July, 1870, after a struggle with a comrade, fell into a sleep for seventy-four hours. He then had attacks as follows : November, three days ; March, 1871, five days. In subsequent year he had three attacks for two or three days each.

In the attacks, the pulse was 84 ; resp., regular. He had a peculiar hyperæsthesia ; stimuli would provoke *spasmodic* movements. (M. Mendel : *Lyon médical*, Oct. 27, 1872.)

CASE 5.—“A young woman in perfect health suddenly experienced such an irresistible desire to sleep that she sought refuge in a solitary and unfrequented place to realize her inexplicable desire unmolested ; her sleep lasted eight consecutive days, when she was awakened by the great stir and noise produced by a number of persons who surrounded her. She was very much weakened by this prolonged fast, and death would have been certain if the sleep had not been interrupted.” (Fournier : *Diction. des sciences méd. Cas rares*. Quoted by Matas.)

CASE 6.—A young lady, aged seventeen, while in church was suddenly seized with a desire to sleep. She went home, went to bed, and slept three days. No catalepsy. She awoke, was well for a month ; then went into a sleep again. (Lasègue : *Gaz. des hôp.*, Jan. 3, 1882.)

CASE 7.—A girl went into a room by herself, and was found shortly after in a state of trance sleep, which lasted thirty-eight hours. (W. R. Gowers : *Quain's Diction. Médecine*.)

CASE 8.—A woman of twenty-seven, of small stature and weak mentally, was admitted to London Hospital for heart trouble.

She passed into a lethargic trance. There was no rigidity or cataplexy. Could be aroused somewhat. Had to be fed with tube. Pulse normal, pupils large, lungs normal, no reflex action. (Dr. L. Doure : *Brit. Med. Journ.*, May 3, 1879, p. 827.)

CASE 9.—Mrs. M., aged thirty-two, mother of six children, of good family and personal history. Had had no symptoms of hysteria. Six weeks after confinement she suddenly fell into a trance sleep, which lasted for several months. Reflexes were not quite abolished at first, and could then swallow food. Later she had to be fed. She slept within her trance, *i. e.*, at night she would snore. No cataleptic or other rigidity. She had some color. (W. T. Gairdner : *Lancet*, Dec. 22, '83 ; Jan. 5 and 12, 1884.)

CASE 10.—A young lady, age twenty, previously healthy, was found one morning in a state of profound sleep, from which she could only be aroused by bleeding ; next morning the same. After several mornings left alone, slept thirty hours ; awoke refreshed. Later often sleeping thirty to sixty hours. Finally became insane. (Cooke's "Treatise on Nervous Diseases," vol. i., p. 372.)

CASE 11.—The sleeping girl of Trouville. At the age of eleven she fell into a sleep or lethargy which continued for ten years. She could be roused enough to swallow food. (Mr. Haymen : *Lancet*, June, 1881.)

CASE 12.—A girl who had been for some time in a lethargy was sent to London Hospital, and treated there with tartar emetic, by which she was speedily cured. (John Gay : *Lancet*, July 3, 1880, p. 31.)

CASE 13.—A similar case to that of Gay's is reported by Gairdner, of a girl who had attacks of lethargy alternating with violent choreic movements. The whole turned out to be a case of hysterical malingering. (*British Med. Journ.*, May 4, 1878.)

CASE 14.—The patient was a single woman, known generally as "Sleeping Effie." She used to wander about for miles, then go home, and fall into a sleep lasting one to five weeks. Attacks continued for fifteen years. She finally died of exhaustion after sleeping three weeks. (Dr. James Edwards : *Lancet*, vol. i., 1848, p. 309.)

To the above cases we must cite three more briefly referred to by Mason Good (*vide op. cit.*) as cases of "ab-

solute lethargy." In one case the patient slept forty days; in another, forty-nine days; in the third, three days, then six weeks, then three days. The last patient finally committed suicide, and probably was then insane.

Cases of lethargy are also reported by Wyatt (*Med. Times and Gazette*, vol. i., 1865, p. 111) and by Gimson (*British Med. Journal*, July 13, 1863).

Mesmeric or Hypnotic Somnolence.

We now come to a class of hysterical cases in which the sleep is more plainly of the mesmeric character. Sometimes it is provoked, at other times it comes on spontaneously.

Richer and Bourneville have shown how susceptible hystero-epileptics are to provoked attacks of somnolence, and I simply refer to the former's work on hystero-epilepsy without attempting to cite cases.

It is certain, however, that spontaneous mesmeric sleep occurs in those who are not hystero-epileptics. This opinion is confirmed by the fact that a young girl who had been a few times hypnotized by Hansen became the subject of attacks of auto-mesmeric sleep, and applied to Finkelnburg for treatment. (*Berlin klinisch. Woch.*, No. 3, 1884.)

Lesegue cites the following three cases:

CASE 1.—A rich farmer, aged thirty, married, went hunting one day, and fell down in a field and slept for seven hours. Next day did the same, and continued to have attacks for a long time. Lesegue was called in, and saw it was a hypnotic sleep. His wife found out that she could put him in or out of sleep, and amused herself by doing so.

CASE 2.—A young lady used to fall asleep at 8 P.M. precisely no matter what she did or how much she slept.

CASE 3.—A Belgian countess, daily, for two years, fell asleep at 9 P.M., no matter what she was doing.

CASE 4.—An educated young woman, previously healthy, had attacks of somnolency lasting several hours, followed by loss of

all her previous knowledge, and return of same on the alternate attacks. This alternation continued for four years. In one interval she retained her original knowledge ; in another, only what she had previously learned. (Major Elder, of West Point. Good's "Study of Med.," vol. ii., p. 218.)

CASE 5.—The patient was a man aged forty-five, large, robust. The family and personal history were good. Had a large fistula. Any emotion or excitement would send him into a sleep, during which he was sometimes conscious—*e.g.*, when a probe was passed into his fistula. (G. Camuset : *Gaz. des hôp.*, July 20, 1880.)

CASE 6.—Woman aged thirty-five. Healthy in other respects. Had attacks of sleep—ten minutes. Several daily. No epileptic history. (G. Ballet : *Rev. de médecine*, Nov., 1882.)

CASE 7.—Josephine F., aged sixteen. Family and personal history good. At the age of fourteen she experienced a great excitement and emotion. This was followed by hysterical contrac-ture and deaf-mutism.

She became relieved of these symptoms, but on receiving a fright one day, they returned. Taken to a hospital she had attacks of sleep lasting twenty-four hours, alternating with contractions. (Ballet : *vid. loc. cit.*)

CASE 8.—A young lady of delicate constitution, aged eighteen, had been subject to great anxiety. She had attacks of somnolence lasting two or three hours and coming on two or three times a week. She recovered suddenly. (Good's "Study of Medicine," vol. ii., page 384.)

CASE 9.—See my own case, No. 5.

CASE 10.—Finkelnburg's ; *vide* above.

CASE 11.—A case is briefly described in *The Lancet*, vol. i., 1867, p. 532, of a spare, abstemious man, otherwise in apparent good health, who suffered from a continual drowsiness.

The writer inquired for a remedy and was advised by another correspondent to use belladonna.

CASE 12.—This case is referred to by Handfield Jones ("Functional Nervous Diseases," p. 405). A man, aged twenty-two, was ill for a year, suffering from continual drowsiness. His face was flushed, and there appeared to be a paresis of the cerebral vessels.

A few interesting cases illustrating somnolence from

organic brain disease, from great exhaustion, or from diabetes, may be briefly referred to.

CASE 1.—Ballet cites a case (*loc. cit.*) of a diabetic who suffered from persistent drowsiness and prolonged attacks of sleep.

CASE 2.—Matas cites a case (*loc. cit.*) of somnolence from syphilis probably.

CASES 3-4.—Buzzard (*Lancet*, June 7, 1879), cites two cases of this kind.

In these three cases there was persistent drowsiness.

CASE 5.—Matas also cites a case of persistent drowsiness and somnolence from a brain tumor. (*Loc. cit.*)

CASE 6.—Laycock cites a case of morbid somnolence from an injury to the head. There was no paralysis. He was cured by a sternutatory. Dying later, no lesion of the brain was found. (*Medical Times & Gaz.*, May 13, 1865, p. 489).

A. Weber cites a case of somnolence in a girl who suffered from hemiplegia and epilepsy. She had convulsive attacks followed by lethargic attacks, lasting for hours or days, and finally ending in hemiplegia. (*Brit. Med. Jour.*, Oct. 22, 1870.)

CASE 7.—Madden (*loc. cit.*) cites the case of a boy who passed into a soporose state, lasting forty-seven days, after an attack of typhoid fever.

CASE 8.—Also the case of a woman who, after confinement and typhoid fever, passed into a similar state, lasting twenty-seven days.